

Remarks/Arguments:

The present invention relates to a substrate for use in a test for detecting a biomolecule. Specifically, a code corresponding to the arrangement of biomolecule beads and marker beads in a tube is stored as a representative code for identification purposes.

On page 2, the Official Action objects to claim 19 because it does not read properly. Thus, Applicant has amended claim 19 as proposed by the Examiner. Withdrawal of the objection is respectfully requested.

On page 2, the Official Action rejects claims 19 and 21 under 35 U.S.C. § 112 as being indefinite. Specifically, the Examiner states that it is unclear whether the "tube identification information of a specimen" is a structural element of the tube. It is not understood why the claims fail to meet the requirements of the statute, particularly since it is not understood how the quoted language is indefinite. Clarification is respectfully requested.

On page 3, the Official Action rejects claims 19 and 21 under 35 U.S.C. § 102(b) as being anticipated by Kambara (U.S. Patent No. 6,288,220). On page 5, the Official Action rejects claims 19 and 21 under 35 U.S.C. § 102(e) as being anticipated by Hauser et al. (WO 99/60170). It is respectfully submitted, however, that the claims are patentable over the art of record for the reasons set forth below.

Kambara teaches a DNA probe array system which consists of a tube containing biomolecule beads and marker beads. Additionally, Hauser also discloses a system containing a tube which contains biomolecule beads and marker beads.

Applicant's invention, as recited by claim 19, includes a feature which is neither disclosed nor suggested by the art of record, namely:

... a storage device for storing a code corresponding to the arrangement of the biomolecule beads and the marker beads to identify the biomolecule bead-containing tube ...

Claim 19 relates to a device for storing a code that corresponds to the arrangement of biomolecule beads and marker beads in the bead containing tube. Specifically, biomolecule beads and marker beads are identified and stored as a representative code (for example binary code) in a storage device. Identification of the biomolecule bead containing tube can then be

performed by utilizing the representative code. This feature is found in the originally filed application in at least Figs. 49, 53 and page 116, lines 10-25. No new matter has been added.

Kambara shows in Fig. 7 and describes in Column 6, lines 36-44 and Column 11, lines 42-56, a tube (item 7) containing biomolecule beads (item 31) and marker beads (item 32). Additionally, Hauser shows in Fig. 1 and describes on page 15, lines 12-23, a tube (item 12) that also contains biomolecule and marker beads (items 18, 20). Kambara and Hauser, however, do not teach generating and storing a code that corresponds to the arrangement of the biomolecule beads and marker beads within the tube.

Applicant's claim 19 is different than Kambara and Hauser, because the addition of a storage device which stores a code that corresponds to the arrangement of the biomolecule beads and marker beads within the tube ("*a storage device for storing a code corresponding to the arrangement of the biomolecule beads and the marker beads to identify the biomolecule bead-containing tube*"). Specifically, Fig. 53 of Applicant's specification shows an example of a tube containing a specific arrangement of biomolecule beads and marker beads. Information recording section 330 which consists of a tube of marker beads and biomolecule beads is started by a sequence of five marker beads 331. The marker beads and biomolecule beads following start sequence 331 are stored as representative code. The representative code in this example is a binary code wherein the marker beads and biomolecule beads are given either a designation of a binary zero or binary one. This information is then stored in information storage region 330 where it can be later retrieved for identifying a specific tube. Support for this feature can be found on page 116, line 10 to page 117, line 5.

Because Applicant includes the feature of "*a storage device for storing a code corresponding to the arrangement of the biomolecule beads and the marker beads to identify the biomolecule bead-containing tube*", that the following advantages are achieved. An advantage is to store the arrangement of the beads as a representative code that can be later retrieved for identification purposes. Accordingly, for the reasons set forth above, claim 19 is patentable over the art of record.

Independent claim 21 also includes the feature of storing the identification information in memory. Thus, claim 21 is also patentable over the art of record for the reasons set forth above.

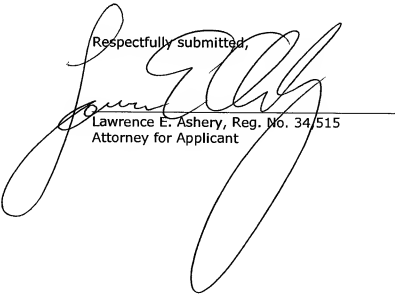
New dependent claim 22 has been added to the application. This claim recites that the tube identification information stored in the memory comprises a code for identifying each bead-containing tube. This claim is patentable by virtue of its dependency on allowable claim 21. Support for this claim can be found in the specification as originally filed on page 115, lines 8-15.

New dependent claim 23 has been added to the application. This claim recites that the tube identification information that is stored in memory has data which is able to identify an organism or a test subject. This claim is patentable by virtue of its dependency on allowable claim 21.

New dependent claim 24 has been added to the application. This claim recites a step that optically reads out the tube identification information and compares it with a database of tube identification information in order to identify a particular specimen. This claim is patentable by virtue of its dependency on allowable claim 21. Support for this feature can be found on page 122, lines 8-20.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,


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